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Conference Abstract

Novel Services in DiSSCo: The Research Infrastructure for Europe's Natural Science Collections

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Abstract

DiSSCo, a Distributed System of Scientific Collections, is a Research Infrastructure (RI) with 114 self-sustaining partners in Europe aiming at providing physical and digital (data) access to the approximately 1.5 billion biological and geological specimens in collections distributed across Europe. It is a facility to generate and aggregate data derived from the collections and repackage them as linked data objects with unified access to enable science and underpin FAIR (Findable, Accessible, Interoperable, Reusable) data principles. In the European landscape of environmental Research Infrastructures, the effectiveness of services that aim at aggregating, monitoring, analysing and modelling geo-diversity information relies on the primary description of the bio- and geo- diversity. It also relies on the availability of this primary reference data that today is scattered and disconnected. DiSSCo provides the required bio-geographical, taxonomic and species trait data at the level of precision and accuracy required to enable and speed up research towards achieving the Targets of the Sustainable Development Goals for Life on Earth, Life below Water and Climate Action.

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DiSSCo requires further development of TDWG standards, RDA (Research Data Alliance) recommendations, practices developed in the CETAF, Consortium of European Taxonomic Facilities network and novel technological approaches to deliver data at the economies of scale and scope needed.

In this paper, we:

1. discuss technical barriers for interoperability and possible action lines to overcome these including practices and technologies to underpin the FAIR data principles;

2. outline the DiSSCo API (Application Programming Interface) services to provide data suitable for thematic services in environmental Research Infrastructures like LifeWatch, eLTER (European Long-Term Ecosystem and socio-ecological Research Infrastructure) as well as RIs in other domains such as E-RIHS (European Research Infrastructure for Heritage Science) in the field of social sciences. The services enable better connections between collection data and observations in biodiversity observation networks, such as EUBON (European Biodiversity Observation Network) and GEOBON (Group on Earth Observations Biodiversity Observation Network);

3. explain the DiSSCo strategy to align project outcomes and standards development towards a common unified research infrastructure.

Keywords

research infrastructure, scientific collections, data aggregation, taxonomy, specimen, Europe

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